

# REVISION OF THE AUSTRALIAN GENERA *EODELENA* HOGG AND *ZACHRIA* L. KOCH (HETEROPODIDAE: ARANEAE)

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HIRST, D. B. 1991. Revision of the Australian genera *Eodelena* Hogg and *Zachria* L. Koch (Heteropodidae: Araneae). *Rec. S. Aust. Mus.* 25(1): 1-17.

The Australian genera *Zachria* L. Koch and *Eodelena* Hogg are revised. *Zachria* is here limited to include only the type species, *Z. flavicoma* L. Koch and *Z. oblonga* L. Koch. *Z. magnifica* (Hogg) is removed to *Typostola* Simon, in which genus it was originally described. *Eodelena* is revalidated and removed from *Zachria*. *E. spenceri* Hogg, type species, and *E. melanocheilis* (Strand) are redescribed. Five new species, *E. convexa*, *E. lapidicola*, both from Western Australia, *E. kosciuskoensis* from New South Wales, *E. loftiensis* from South Australia and *E. tasmaniensis* from Tasmania are described. *E. nigrifrons* Simon is transferred to *Delena* Walckenaer.

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This paper is the fifth of a revision of the Australian Heteropodidae, excluding *Heteropoda* Latreille, 1804. As with other Australian genera of the Heteropodidae, *Zachria* and *Eodelena* are poorly defined, consequently confusion of the taxa has arisen. *Eodelena* is further often confused with the genus *Delena*.

L. Koch (1875) described a new genus, *Zachria* for the species *Z. flavicoma*, *Z. oblonga* and *Z. haemorrhoidalis*. Hogg (1902) synonymised the latter with *Z. oblonga*. In the same work Hogg described the new genus and species *Eodelena spenceri*. Simon (1903) placed that genus in synonymy with *Zachria* on the basis of similar male palp structure. Later, Simon (1908) appeared to reconsider its position when describing *E. nigrifrons*. Bonnet (1959) remarked on this change but left the genus in synonymy with *Zachria*. Strand (1913) described *Z. melanocheilis* while Hickman (1967) commented on the description and habits of *E. spenceri* under *Zachria spenceri*.

## MATERIALS AND METHODS

Larger body and leg measurements of types in poor condition are given to the nearest 0.1 mm. Leg ratios exclude coxa and trochanter. Redescriptions of type material give the present colouration of the specimen or, in the absence of any specimens, a condensed translation of the author's description is given. Female vulva is occasionally inspected without removal of the genitalia by dissecting and lifting on one side and brushing away fatty tissue. Other materials and methods are given in Hirst (1989a, 1989b, 1990). Types of newly described species are deposited in the Australian Museum, Sydney (AM), the Museum of Victoria, Melbourne (NMV), the South Australian Museum, Adelaide

(SAMA), the Tasmanian Museum and Art Gallery, Hobart (TM) and the Western Australian Museum, Perth (WAM). Other acronyms are BMNH, British Museum (Natural History), London; QM, Queensland Museum, Brisbane, and ZMH, Zoologisches Museum, Hamburg.

## Genus *Zachria* L. Koch

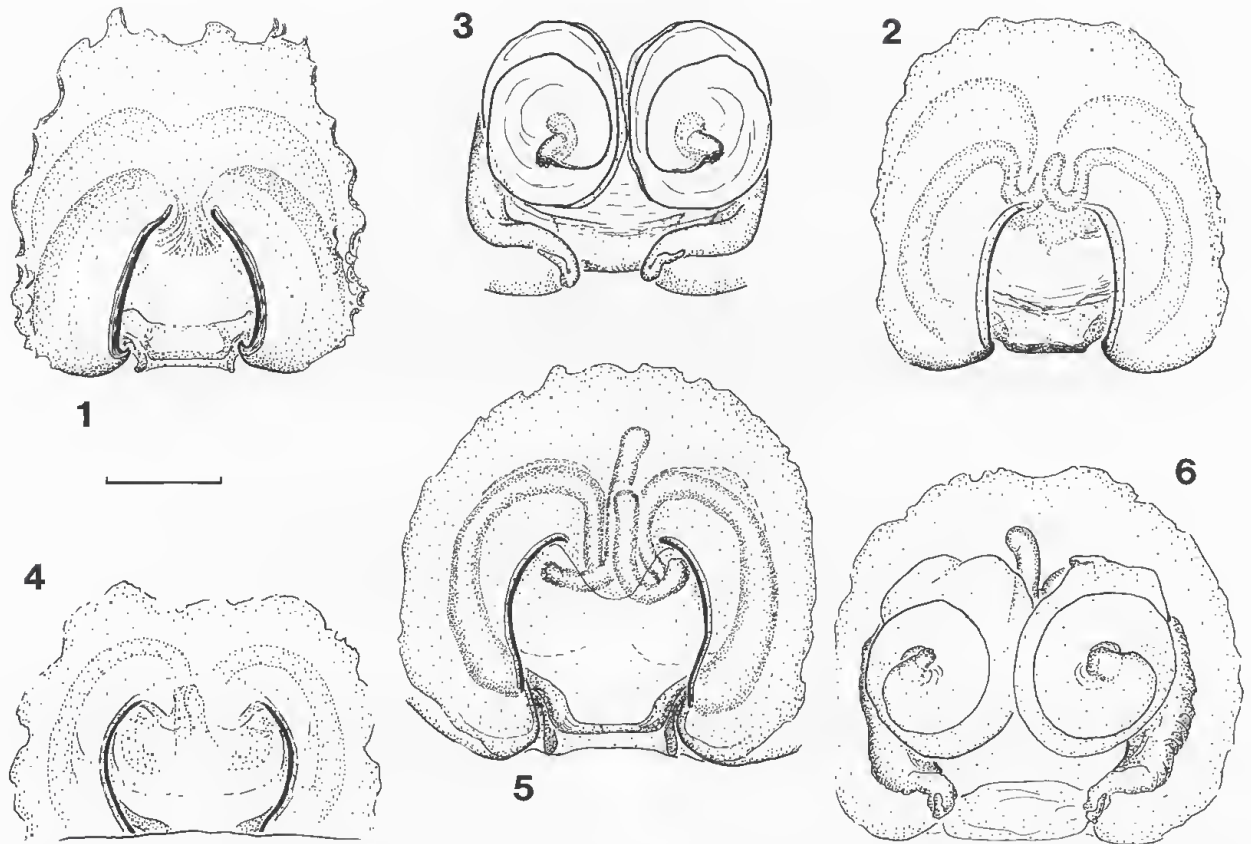
*Zachria* L. Koch, 1875: 649.

### Diagnosis

Carapace longer than wide, low gently rounded sides, flattish medially. Anterior eyes subequal, AME closer to ALE than to each other. Sternum longer than wide, widest mid-length. Anterior legs three to three and a half times carapace length. All metatarsi subequal in length to tibiae. Female spermathecal sacs tubular, long, looped to anterior. Male [known only from L. Koch (1876), see later] with large palpal tibial apophysis and embolus coiled one turn alongside similarly coiled broad conductor in distal half of cymbium.

### Description

Large spiders. Carapace longer than wide in the ratio 17:14; raised at sides, flattish above; low, about four and a half to five times longer than high, highest in region of fovea. Fovea a discernible shallow groove; surrounding area not depressed. Setae short. AME equal or subequal to ALE; distance between AME greater than between AME-ALE; posterior row slightly recurved. Chelicerae with two promarginal teeth; four retromarginal teeth, subdistal tooth largest. Labium wider than long in the ratio 7:6. Sternum longer than wide in the ratio 3:2. Legs relatively short, anterior pairs less than three to less than three and a half times



FIGURES 1-6. *Zachria* females. Figs 1-3, *Z. flavicoma*: 1, holotype epigynum; 2, epigynum and vulva of WAM 28/665, ventral; 3, vulva of WAM 28/665, dorsal. Figs 4-6, *Z. oblonga*: 4, holotype epigynum; 5, epigynum and vulva of NMV K-0956, ventral; 6, vulva of NMV K-0956, dorsal. Scale line 0.5 mm.



FIGURE 7. Distribution of *Zachria* and *Eodelena*.

*Z. flavicoma* □, *Z. oblonga* ■, *E. spenceri* ●, *E. melanocheilus* ▼, *E. tasmaniensis* ○, *E. kosciuskoensis* ▽, *E. loftiensis* ◇, *E. convexa* ◆, *E. lapidicola* △.

length of carapace [leg measurements of the male *Z. oblonga* derived from L. Koch (1876) indicate a length of less than four times carapace length which is low for an Australian male heteropodid]; leg I, when outstretched alongside leg II, reaches to or near tarsi II. Abdomen much longer than wide, rounded, without pattern, or with dark median streak. Female epigynum with sclerotized lateral rim; fossa deeply recessed anteriorly, whitish, posteriorly with raised pigmented ridge. Spermathecal sacs tubular, long, curved to anterior and reaching to or beyond anterior of fossa.

#### *Type species*

*Zachria flavicoma* L. Koch, 1875 by original designation.

#### *Remarks*

*Zachria* differs from other genera of the Australasian subfamily Deleninae in having all metatarsi subequal in length to the tibiae. In the other genera it is more usual for either the anterior metatarsi or the fourth metatarsi, or both, to be longer than the relevant tibiae. Additionally, the significantly longer than wide carapace separates it from other genera except some *Neosparassus*. *Zachria* further differs from *Eodelena* in having the anterior eyes subequal with AME closer to ALE than to each other and in the presence of spermathecal sacs in the female vulva.

#### *Zachria flavicoma* L. Koch (Figs 1, 2, 3, 7)

*Zachria flavicoma* L. Koch, 1875: 650, pl. 52, fig. 3. Holotype ♀, King George Sound, Western Australia, Bradley Collection. AM KS18911, ♀, King George Sound, [35°03'S, 117°58'E, Western Australia], agrees with the holotype in dimensions and accompanying data and is considered to be that specimen. It is believed to be part of the Bradley collection which found its way to the Macleay Museum of the University of Sydney, and is presently in the Australian Museum collection.

#### *Diagnosis*

(Male unknown). Female anterior leg ratio less than 3. Epigynum somewhat parallel-sided or narrower anteriorly. Vulva with anteriorly curved spermathecal sacs partly extending in front of fossa.

#### *Female* AM KS18911

CL 8.62, CW 6.95. AL 18.00, AW 9.90.

Colour in alcohol: Carapace yellowish-brown, striae darker, fovea reddish, caput dark reddish in ocular area. Setae brown. Chelicerae dark reddish. Maxillae and labium dark orange-red. Sternum

orange-yellow. Legs dark yellow-brown, anterior metatarsi and tarsi dark orange-brown, patches of dark orange-brown on tibiae, metatarsi and tarsi. Area around sockets of heavier setae on venter and prolateral of femora dark coloured, giving spotted appearance. Abdomen creamy-yellow without pattern.

Carapace: Sides rounded, flattish medially, 5 times longer than high, lowest in ocular region, relatively level from posterior of eyes to posterior of fovea. Eyes: AME 0.52. AME: ALE: PME: PLE = 1: 1.04: 0.54: 0.73. Interspaces: AME-AME 0.58, AME-ALE 0.38, PME-PME 1.69, PME-PLE 1.65, AME-PME 0.96, ALE-PLE 1.23. MOQ, aw: pw: 1 = 2.50: 2.77: 2.31. Width of clypeus to AME 0.29. Labium: L 1.22, W 1.42. Sternum: L 4.38, W 2.90. Legs: anterior leg ratios 1 = 2.7, 11 = 2.9.

Epigynum: (Fig. 1). Lateral rims of fossa somewhat parallel; anterior of fossa recessed. Vulva of WAM 28/665 (Figs 2, 3) with spermathecal sacs moderately long and arced at anterior edge of fossa.

#### *Variation*

Carapace length of WAM 28/665 is 8.75.

#### *Distribution and remarks*

(Fig. 7). *Z. flavicoma* occurs in south-west Western Australia. The male is unknown. The female differs from *Z. oblonga* in the relatively shorter legs, the absence of markings on the abdomen, shorter spermathecal sacs and the insemination ducts with slightly reduced coiling.

#### *Other material examined*

**Western Australia:** Juv., Binnu, 28°02'S, 114°40'E, July 1965, M. deGraaf, WAM 88/1498; ♀, Mundaring, 31°54'S, 116°10'E, 3. vii. 1928, E. Riley, WAM 28/665.

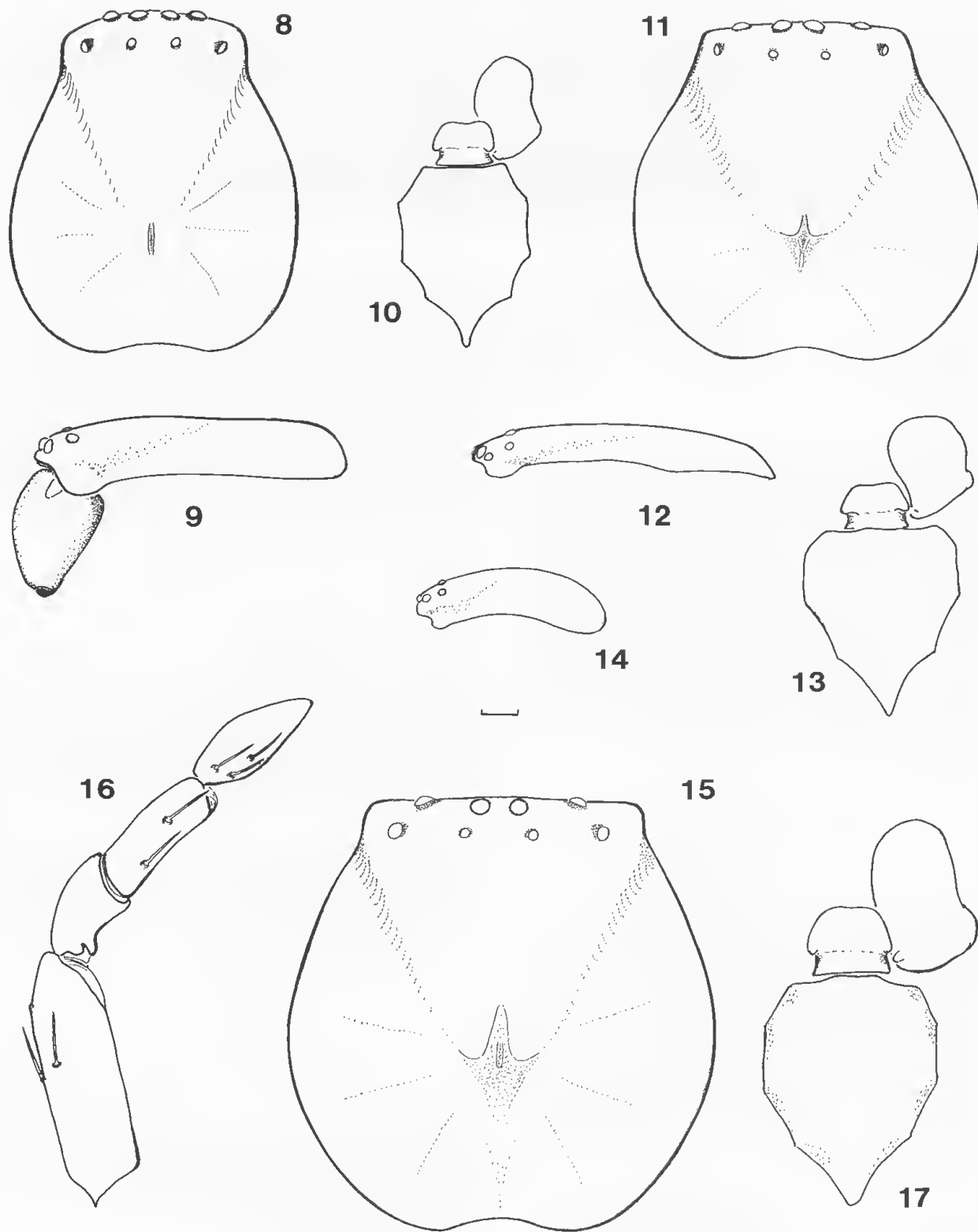
#### *Zachria oblonga* L. Koch (Figs 4, 5, 6, 7, 8, 9, 10)

*Zachria oblonga* L. Koch, 1875: 651, pl. 52, fig. 4. Holotype ♀, Sydney, New South Wales, ZMH (Mus. Godeffroy Nr 11022), examined. A second ♀ in NMV (K-0955), [where a small part of the Godeffroy coll. is housed] not mentioned in Koch (1875), also has the number 11022 but is without further data.

*Zachria haemorrhoidalis* L. Koch, 1875: 653, pl. 52, fig. 5. Hogg, 1902: 454. Syntypes, 2 juveniles, Sydney, New South Wales, ZMH (Mus. Godeffroy Nr 11021), not examined.

#### *Diagnosis*

Abdomen may have a dark narrow stripe dorsally. Female anterior leg ratios between 3 and 3.5. Fossa



FIGURES 8-17. *Zachria* and *Eodelena*; carapace, sternum, maxillae, labium and palp. Figs 8-10, *Z. oblonga*, NMV K-0956: 8, carapace, dorsal; 9, carapace and chelicera, lateral; 10, sternum, labium and left maxilla. Figs 11-13, *E. spenceri*: 11, carapace, dorsal; 12, carapace, lateral; 13, sternum, labium and left maxilla. Fig. 14, *E. convexa*, carapace, lateral. Figs 15-17, *E. lapidicola*: 15, carapace; 16, left palp of holotype male, prolateral; 17, sternum, labium and left maxilla. Scale line 1mm.



broad, rounded anteriorly; spermathecal sacs long, extending well to anterior of fossa; insemination ducts coiled 1½ times.

#### *Holotype female*

CL 9.75, CW 8.40. AL 15.50, AW 8.70.

Colour in alcohol: Carapace yellow-orange, caput reddish. Chelicerae dark red-brown to blackish. Maxillae and labium reddish. Sternum yellowish. Legs yellow-brown, metatarsi and tarsi reddish. Abdomen dark yellowish dorsally; venter yellow.

Carapace: gently rounded sides, somewhat flattish medially, 4½ times longer than high. Eyes: AME 0.50. AME: ALE: PME: PLE = 1: 1.2: 0.7: 0.8. Interspaces AME-AME 0.8, AME-ALE 0.6, PME-PME 1.8, PME-PL 2.0, AME-PME 1, ALE-PL 1.4. MOQ, aw: pw: 1 = 2.8: 3.2: 2.8. Width of clypeus to AME 0.6. Sternum: L 4.74, W 3.07. Legs: anterior leg ratios I = 3.1, II = 3.5.

Epigynum: (Fig. 4). With broad thinly sclerotized lateral sides. Fossa whitish allowing the long tubular spermathecal sacs to be seen beneath. Vulva of NMV K-0956 (Figs 5, 6) with insemination ducts coiled 1½ times.

#### *Description of male* modified from L. Koch (1876)

CL 8.0, CW 6.5. AL 9.0 AW *ca* 6.0 (not as broad as carapace).

Colour in alcohol: Carapace brown-yellow, ocular area with black-brown patches; adpressed setae yellow, upright setae black. Chelicerae black-brown; setae grey-yellow; black bristles. Maxillae and labium pale reddish-brown. Sternum pale yellow; setae concolourous. Abdomen dorsally with yellow setae, deep blackish narrowing long stripe, anteriorly indistinct, posteriorly blackish and reaching to spinnerets; venter pale yellow with white setae forming stripes. Spinnerets brown-yellow; black setae. Palps brown-yellow, cymbium black-brown with grey-yellow setae. Leg femora brownish-yellow, remaining segments (patellae to tarsi) light reddish-brown; adpressed setae yellow, upright long setae black; scopula blackish-grey.

Carapace: 0.15 mm longer than broad, low, dorsally flat; fovea shallow, long but not reaching posterior declivity. Eyes: both eye rows straight; AME almost their diameter apart, AME-ALE also almost width of AME apart, ALE as large as AME. Legs: Anterior leg ratios (*ca*) I = 3.5, II = 3.7.

Palps: From the illustration given by L. Koch (pl. 73, fig. 3) the embolus appears to be narrow and coiled once distally while the conductor is thick and also coiled once distally. The palp resembles that of *Eodelena* but the embolus and conductor extend further proximally in the alveolus of the cymbium and the tibial apophysis appears larger and more robust.

#### *Variation*

Carapace length of females 8.12–9.15, mean 8.52 (*n* = 4). While most specimens examined are without pattern (partly due to age as the holotype is without a median stripe, though this was clearly figured by L. Koch, 1875) the abdomen of one specimen is with a brown longitudinal median streak which is darker in the posterior half.

#### *Distribution and remarks*

(Fig. 7). Known only from Sydney, New South Wales. Females are separated from *Z. flavicoma* by the relatively longer legs, the usual presence of a dark dorsal stripe on the abdomen, fossa broader, more rounded anteriorly, longer spermathecal sacs and insemination ducts with slightly greater coiling.

L. Koch (1876, p. 850; pl. 73, fig. 3) described and figured a male collected by Daemels from *Xanthorrhoea* (grass-tree), Sydney. The institution in which it was deposited was not given nor are its whereabouts known. It is not a type. A redescription modified from L. Koch is given above.

#### *Other material examined*

**New South Wales:** ♀, Scouts Gully, Gordon, Sydney, 19. xii. 1948, A. Musgrave, AM KS16609; ♀, Sydney, AM KS20788; ♀, 1891, W. K., NMV K-0956.

#### *Species Transferred*

Järvi (1912) transferred *Typostola magnifica* Hogg (1902) to *Zachria* on the similarity of the female vulva. That combination is not supported by the following characters: the carapace of *T. magnifica* is higher, ALE are larger than the AME and legs are relatively longer with some metatarsi longer than the relevant tibiae. Here *Z. magnifica* is transferred back to *Typostola* Simon.

#### Genus *Eodelena* Hogg

*Eodelena* Hogg, 1902: 464. Simon, 1908: 435.

*Zachria*: Simon, 1903: 1024. Bonnet, 1959: 4907.

#### *Diagnosis*

Low flattish to slightly raised convex carapace, usually wider than long, occasionally longer than wide. AME largest, closer to each other than to ALE. Anterior legs about four to five times carapace length. Male embolus with tip barely coiled once. Female epigynum small, weakly sclerotized. Spermathecal sacs absent.

#### *Description*

Medium to large spiders; low flat carapace with shallow, often indistinct fovea in circular depression or with slightly convex carapace and fovea a long

shallow groove. Anterior eye row straight, posterior row straight to slightly procurved; AME largest, PME smallest, laterals subequal. Clypeus half width of AME or less. Chelicerae with two promarginal teeth; three or four, rarely five, retromarginal teeth, proximal tooth small, others subequal, subdistal tooth usually larger. Labium  $1\frac{1}{2}$  times wider than long. Sternum truncate anteriorly, bluntly pointed posteriorly; widest between coxae II at  $\frac{1}{3}$  its length from anterior and barely longer than wide in the ratio 5:4, except *E. lapidicola* in which it is longer than wide and widest mid-length. Legs 2143. Leg I, when outstretched alongside leg II, reaches mid-way along metatarsus II. Dorsal tibial spines usually lacking, patellae usually without spines except retrolaterally on II. Tibiae ventrally with three spine pairs except IV which often has two, lacking the distal pair. Metatarsi IV without distal lateral spines. Palp femur with two or three dorsal and one prolateral spine, usually short, thin, except *E. lapidicola* which lacks palpal femur spines. All leg spines relatively short except metatarsi IV ventral spines which are longer. Legs usually with long erect setae but few adpressed setae. Scopula relatively long, sparse, on all metatarsi and tarsi. Abdomen may be flattened dorsoventrally, dorsal pattern consists of dark spots, or blackish with pale spots. Male cymbium may be with two or three prolateral spines or stout long bristles. Male palpal tibia with short retrolateral apophysis with small membranous support. Embolus long; from its base arcing around tegulum, running along prolateral side of cymbium before looping near tip for almost one complete turn. Conductor begins at prolateral side of tegulum following route of embolus to support tip of embolus. Embolic sclerite present with apex attenuated or rounded. Female epigynum small; well defined but weakly sclerotized lateral edges overhanging whitish fossa; lacking setae medially but with setae extending between sclerotized lateral sides at anterior edge of fossa. Fossa recessed anteriorly, whitish, posteriorly with pigmented 'plateau' formed by fusion of insemination duct bases to fossa. Vulva with one to one and a half insemination duct coils; spermathecal sacs absent.

#### Type species

*Eodelena spenceri* Hogg, 1902 by original designation and monotypy.

#### Remarks

*Eodelena* is removed from *Zachria* as it differs in the AME being larger than the ALE with the AME closer to each other than to the ALE, the carapace wider than long or at least not significantly longer than wide, most metatarsi longer than the tibiae and in the female by the absence of spermathecal sacs. *Eodelena* is similar in

appearance to *Delena* from which it can be separated by the latter having in the male a highly coiled embolus and by the female having a larger fossa containing numerous setae medially. *E. lapidicola* is most similar to *Delena* in its large size, in having the carapace longer than wide, the sternum noticeably longer than wide and widest mid-length (Fig. 17), and a lack of distal spines on the palpal femur. It differs from *Delena* in having broader eye rows (Fig. 15), relatively shorter legs, longer palpal femur, and more leg spines in addition to the above genitalic differences.

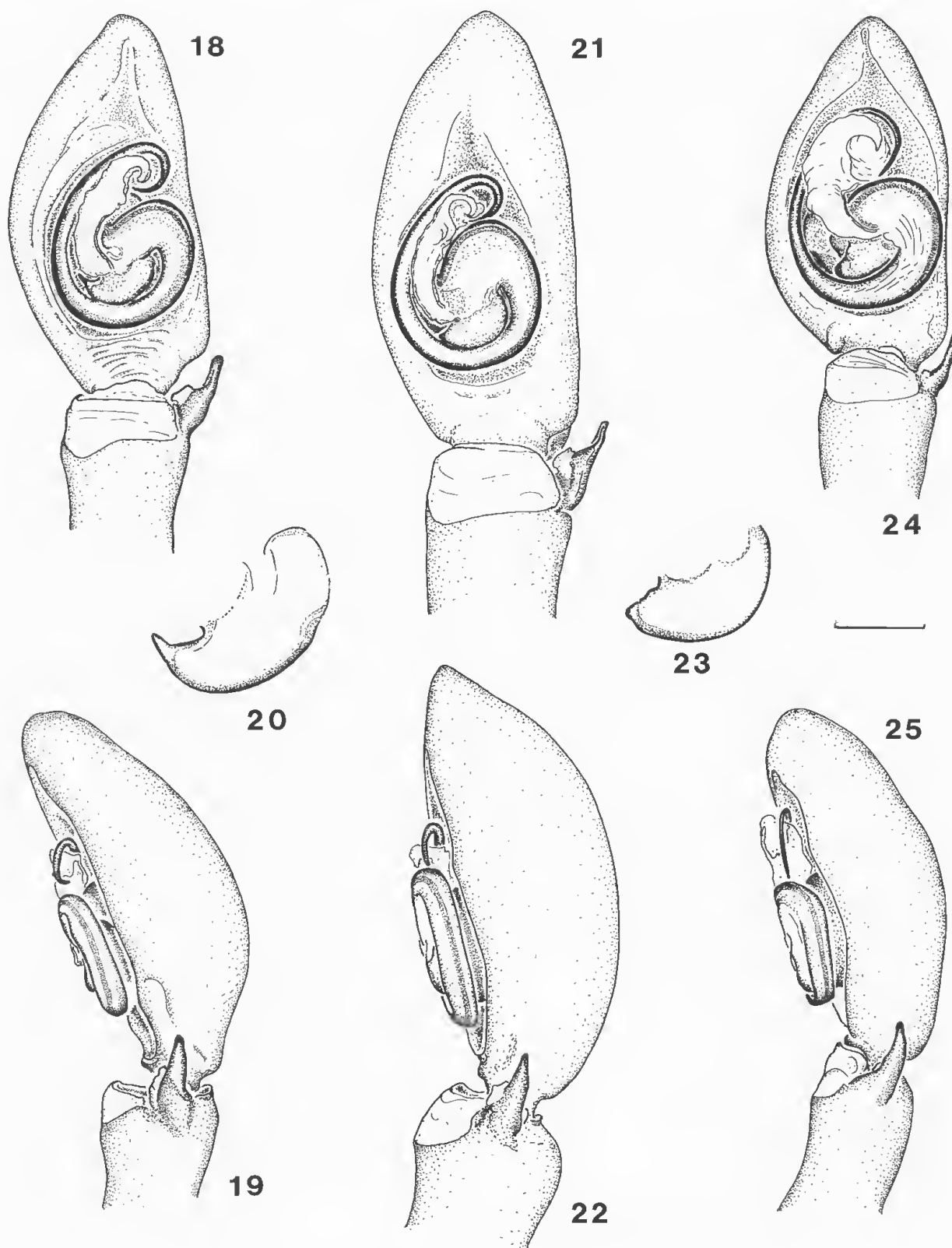
*Eodelena convexa* is least likely to be confused with *Delena* and other *Eodelena* species as it possesses a convex carapace (Fig. 14) and more spinose legs. As in *E. lapidicola*, *E. convexa* has the carapace slightly longer than broad. The remaining *Eodelena* species have the carapace wider than long (Fig. 11) and with *convexa*, the sternum only slightly longer than wide and widest about  $\frac{1}{3}$  from the anterior edge (Fig. 13).

A key to the female *Eodelena* species is given but with the exception of *E. convexa* and *E. lapidicola*, care is required in their diagnosis as colour, size and epigynum shape are very similar and variable. *E. kosciuskoensis* and *E. loftiensis* differ from other known females in the fertilization and insemination duct coiling while *E. loftiensis* differs from *E. kosciuskoensis* in the slightly higher carapace and abdomen pattern. The female of *E. tasmaniensis* is separated from those of *E. melanocheilis* and *E. spenceri* by the general darker colour and the smaller epigynum with more compact insemination duct coils and *E. melanocheilis* differs from *E. spenceri* in its smaller size and the narrower epigynum.

#### KEY TO THE SPECIES OF *EODELENA*

##### Males

- 1 — Carapace wider than long.....2  
Carapace longer than wide.....5
- 2 — Embolic sclerite with attenuate or acute apex (Figs 20, 23).....3  
— Embolic sclerite with rounded apex (Fig. 24).....4
- 3 — Embolic sclerite narrow; apex attenuate (Fig. 20).....*spenceri* Hogg  
— Embolic sclerite broad, short bluntly pointed apex (Fig. 23).....*melanocheilis* (Strand)
- 4 — Carapace convex but low, abdomen with scattered blackish spots. Embolic base large, angular retrolaterally (Fig. 26); embolic sclerite small.....*loftiensis* sp. nov.  
— Carapace flattish, abdomen with numerous blackish spots. Embolic base rounded retrolaterally; embolic sclerite relatively large (Fig. 24).....*tasmaniensis* sp. nov.



FIGURES 18–25. Left palpal tibia and tarsus, and embolic sclerite of male *Eodelena*. Figs 18–20, *E. spenceri*, holotype: 18, ventral; 19, retrolateral; 20, embolic sclerite. Figs 21–23, *E. melanocheilis*, SAMA N1989589: 21, ventral; 22, retrolateral; 23, embolic sclerite. Figs 24–25, *E. tasmaniensis*, holotype: 24, ventral; 25, retrolateral. Scale line 0.5 mm except 20 and 23, 0.25 mm.



- 5 — Carapace convex, 4–6 mm long. Palpal femur with distal spines; palpal tarsus 2× longer than tibia, without prolateral spines. . . . . *convexa* sp. nov.  
 — Carapace flat, 8–12 mm long. Palpal femur without distal spines; palpal tarsus subequal in length to tibia, with prolateral spines (Fig. 16). . . . .  
 . . . . . *lapidicola* sp. nov.

#### Females

- 1 — Carapace wider than long, usually less than 8 mm long. . . . . 2  
 — Carapace longer than wide, 8–12 mm long. . . . .  
 . . . . . *lapidicola* sp. nov.  
 2 — Fertilization ducts not enlarged to form coil, insemination ducts thin, membranous (Fig. 41). . . . . 3  
 — Fertilization ducts enlarged to form robust coil, insemination ducts partly or wholly sclerotized (Fig. 47). . . . . 5  
 3 — Abdomen yellowish with patches of dark suffusion. . . . . 4  
 — Abdomen largely with dark suffusion. . . . .  
 . . . . . *tasmaniensis* sp. nov.  
 4 — Epigynum broad, sides parallel anteriorly (Fig. 40). . . . . *spenceri* Hogg  
 — Epigynum narrow, sides incurved anteriorly (Fig. 42). . . . . *melanochelis* (Strand)  
 5 — Carapace flattish, abdomen with dark suffusion. . . . . *kosciuskoensis* sp. nov.  
 — Carapace slightly convex, abdomen spotted. . . . .  
 . . . . . *loftiensis* sp. nov.

#### *Eodelena spenceri* Hogg

(Figs 7, 11, 12, 13, 18, 19, 20, 33, 39, 40, 41)

*Eodelena spenceri* Hogg, 1902: 464, fig. 104. Syntypes, ♂ and immature ♀, King Island [39°55'S, 144°00'E], Bass Strait, Australia, 1888, Professor Baldwin Spencer, BMNH 1888.144, examined.

*Zachria spenceri*: Simon, 1903: 1024.

#### Diagnosis

Male with relatively narrow embolic sclerite with apex long, attenuated. Female epigynum relatively parallel-sided anteriorly and as broad as long.

#### Syntype male

CL 5.90, CW 6.10. AL 6.70, AW 5.05.

Colour in alcohol: Carapace yellow-brown, striae brown but may be an artefact of preservation, caput yellowish with reddish lateral margins and ocular area. Chelicerae reddish; sparse long yellow-brown setae. Maxillae and labium orange-red. Sternum yellow; setae yellow-white. Coxae yellowish. Legs yellow-brown; femora yellowish ventrally, anterior tibiae and metatarsi orange-brown. Palpal tarsi orange-brown. Abdomen yellow-brown with brown-black suffusion forming spots.

Carapace: 6 to 7 times longer than high, highest posterior to fovea. Fovea indistinct in shallow depression. Chelicerae: retromarginal teeth 4. Eyes: AME 0.38. AME: ALE: PME: PLE = 1: 0.79: 0.63: 0.84. Interspaces: AME-AME 0.82, AME-ALE 1.26, PME-PME 2.21, PME-PLP 1.95, AME-PME 0.79, ALE-PLP 0.84. MOQ, aw: pw: 1 = 2.82: 3.47: 2.53. Width of clypeus to AME 0.32. Labium: L 0.91, W 1.31. Sternum: L 3.19, W 3.18. Legs: anterior leg ratios 1 = 4.7, 11 = 5.9. Upright setae sparse.

Palps: (Figs 18, 19). Embolic sclerite relatively narrow with long attenuate apex (Fig. 20).

*Female* TM J145 (as male except as follows)

CL 6.89, CW 7.14. AL 10.25, AW 7.20.

Colour in alcohol: Carapace yellowish, striae reddish, ocular area and lateral margins of caput reddish. Chelicerae dark reddish-brown; setae yellow-brown. Maxillae and labium orange-red. Sternum yellow, margins reddish. Leg coxae and femora yellowish, anterior metatarsi and tarsi orange-red. Palps orange-red. Abdomen (Fig. 33) yellow-brown with anterior yellow streak, blackish suffusion forming spots; venter yellow, blackish suffusion medially.

Eyes: AME 0.41. AME: ALE: PME: PLE = 1: 0.78: 0.63: 0.73. Interspaces: AME-AME 0.83, AME-ALE 1.37, PME-PME 2.29, PME-PLP 2.07, AME-PME 0.83, ALE-PLP 0.95. MOQ, aw: pw: 1 = 2.83: 3.56: 2.46. Width of clypeus to AME 0.27. Labium: L 0.96, W 1.58. Sternum: L 3.67, W 3.47. Legs: anterior leg ratios 1 = 4.1, 11 = 5.1.

Epigynum: (Fig. 41). Narrow anteriorly, broadest medially.

#### Variation

Carapace length of males 5.02–9.37, mean 6.99 (n=8). The embolic sclerite may have much of the attenuate apex broken off or rounded, but along with the sclerite shape, remains distinct from *E. melanochelis*. Carapace length of females 5.78–8.50, mean 7.50 (n=5). The usual form of the epigynum (Figs 39, 40) is broader anteriorly but is somewhat variable and occasionally may be similar to *E. melanochelis* in having the lateral sides curving inwards anteriorly (Fig. 41) rather than being parallel. The vulva has 1½ insemination duct coils.

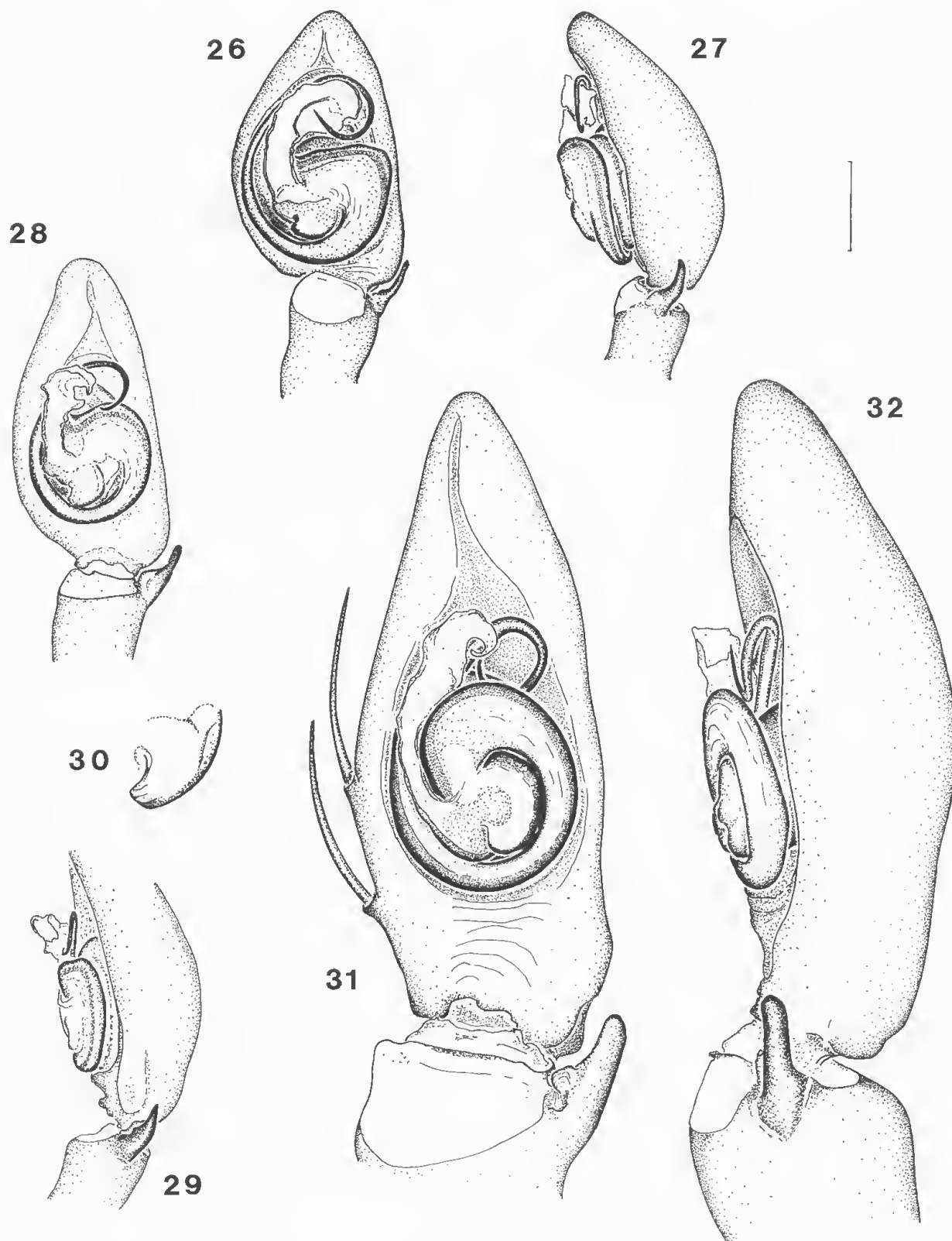
#### Distribution

(Fig. 7). King Island, Bass Strait and northern and eastern Tasmania.

#### Other material examined

**Tasmania:** ♀, Blackmans Bay, 42°52'S, 147°51'E, 1924, SAMA N1989573; penult. ♂, same data, SAMA N1989574; ♂, Hermit Camp,





FIGURES 26–32. Left palpal tibia and tarsus, and embolic sclerite of male *Eodelena*. Figs 26–27, *E. loftiensis*, holotype: 26, ventral; 27, retrolateral. Figs 28–30, *E. convexa*, holotype: 28, ventral; 29, retrolateral; 30, embolic sclerite. Figs 31–32, *E. lapidicola*, holotype: 31, ventral; 32, retrolateral. Scale line 0.5 mm except 30, 0.25 mm.

(?Hermit Valley = 42°51'S, 146°09'E), 19. iii. 1972, H.D. B., A.P. A., TM J790; 4 ♂♂, Islands, Bass Strait, Dec. 1908, J. A. Kershaw, NMV; 3 ♀♀, King Island, 39°55'S, 144°00'E, Dec. 1906, J. A. Kershaw, NMV K-0957; ♂, Lake St Clair, 42°04'S, 146°10'E, Oct. 1937, A. W. G. Powell, TM J278; juv., Tarooma, 42°57'S, 147°20'E, 15. ii. 1978, J. Parrott, TM J1296; ♂, ♀, Trevallyn, Launceston, 41°27'S, 147°10'E, V. V. Hickman, TM J145. Further material of 1 ♀, 2 ♂♂, 1 juv., labelled Adelaide, Jan. 1924, Cameron W, SAMA N1989575-8, is also considered to be from Tasmania. The locality 'Adelaide' is typed on a separate label while the hand written label with date and collector is similar to that of the Blackmans Bay specimens (also dated 1924).

***Eodelena melanochelis* (Strand) comb. nov.**  
(Figs 7, 21, 22, 23, 34, 42, 43)

*Zachria melanochelis* Strand, 1913: 204. Holotype ♀, Victoria. H. and A. Eberhard. Whereabouts unknown.

**Diagnosis**

Male embolic sclerite broad with a short, bluntly pointed apex. Female epigynum relatively long and narrow.

**Male SAMA N1989589**

CL 7.42, CW 7.71. AL 7.65, AW 5.20.

Colour in alcohol: Carapace creamy-yellow, caput reddish on lateral margins and around posterior eye row; clypeus and around anterior eye row dark red-brown. Chelicerae black. Maxillae and labium reddish. Sternum yellow. Coxae and basal half of femora creamy-yellow, remainder of leg segments orange-yellow, darker on metatarsi and tarsi. Abdomen yellow-brown with blackish suffusion forming spots. Venter with median pale yellow area with blackish suffusion.

Carapace: Low; sides gently sloping, flattish medially, 6 to 7 times longer than high, highest posterior to fovea. Fovea in shallow depression. Eyes: AME 0.46. AME: ALE: PME: PLE = 1: 0.78: 0.61: 0.78. Interspaces: AME-AME 0.70, AME-ALE 1.26, PME-PME 2.22, PME-PLE 2.06, AME-PME 0.67, ALE-PLE 0.85. MOQ, aw: pw: 1 = 2.70: 3.43: 2.13. Width of clypeus to AME 0.19. Labium: L 1.02, W 1.45. Sternum: L 3.98, W 3.59. Broadest  $\frac{1}{3}$  length from anterior. Legs: anterior leg ratios 1 = 4.4, 11 = 5.4. Upright setae sparse.

Palps: (Figs 21, 22). Embolic sclerite broad with short bluntly pointed apex (Fig. 23).

**Female SAMA N1989592** (as male except as follows)  
CL 6.70, CW 7.20. AL 10.45, AW 7.30.

Colour in alcohol: Caput with orange-red lateral margins and around ocular area; orange-red suffusion medially, dark red-brown between ALE-PLE and between AME. All eyes with blackish rims. Chelicerae glossy blue-black. Maxillae and labium orange-red, maxillae with dark brown prolateral patch. Sternum creamy-yellow. Abdomen (Fig. 34).

Eyes: AME 0.40. AME: ALE: PME: PLE = 1: 0.88: 0.70: 0.90. Interspaces: AME-AME 0.93, AME-ALE 1.38, PME-PME 2.18, PME-PLE 2.20, AME-PME 0.85, ALE-PLE 0.90. MOQ, aw: pw: 1 = 2.93: 3.58: 2.40. Width of clypeus to AME 0.33. Labium: L 1.00, W 1.58. Sternum: L 3.79, W 3.51. Legs: anterior leg ratios 1 = 4.0, 11 = 4.8.

Epigynum: (Figs 42, 43). Broader in anterior half; posterior 'plateau' long with procurved anterior edge. Vulva with a little over one complete coil of the insemination duct.

**Variation**

Carapace lengths of males 5.66-7.42, mean 6.45 (n=5). Carapace lengths of females 5.34-6.90, mean 6.16 (n=7). One female from Icy Creek with much darker abdomen more similar in pattern to *E. tasmaniensis*.

**Distribution and remarks**

(Fig. 7). Occurs in southern Victoria to the alpine area of Mt Buffalo. *E. melanochelis* is very common in the Dandenong Ranges where it is found in lengths of tightly rolled bark hanging from *Eucalyptus* or from the undergrowth beneath *Eucalyptus*. The male differs from *E. spenceri* in the relatively shorter and broader embolic sclerite with short pointed apex and the female by the smaller size and narrower epigynum with lateral sides curved inwards anteriorly.

The redescription is from recently collected material which is considered to have come from near the type locality. Although the collectors of the type material were from Melbourne, a specimen of *Lampona obscoena* L. Koch from Gippsland, Victoria, was mentioned in the same paper. It may be assumed that the types of *melanochelis* came from within those areas.

**Material examined**

**Victoria:** ♀, Belgrave, 37°55'S, 145°21'E, 12. vi. 1989, D. Hirst, SAMA N1989592; ♀, same data, SAMA N1989593; ♀, Blackwood, 37°29'S, 144°19'E, 26. vi. 1980, H. Parnaby, AM KS19695; ♀, juv., same locality, 10. x. 1977, H. Parnaby, AM KS19287; ♀ and spiderling, Emerald, 37°56'S, 145°27'E, 12. vi. 1989, D. Hirst, SAMA

N1989594-5; 1 ♂, 2 ♀♀, 4 km NE Icy Creek, 37°51'S, 146°07'E, 11. vi. 1989, D. Hirst, SAMA N1989589-91; juv. Macclesfield district, ca 37°54'S, 145°30'E, Aug. 1904, E. J., NMV; 2 ♂♂, camping area, Lake Catani, Mt Buffalo, 36°44'S, 146°49'E, 21. ii. 1979, H. Parnaby, AM KS19288; ♂, Pirron Yallock, 38°21'S, 143°24'E, 19. vi. 1989, D. Hirst, SAMA N1989588; ♂, no data, AM KS19289.

***Eodelena tasmaniensis* sp. nov.**

(Figs 7, 24, 25, 35, 44, 45)

**Types**

Holotype: ♂, Olga Valley, 42°43'S, 145°46'E, (HEC transect 2L.6445), south-west Tasmania, 20. i. 1977, C. Howard and G. Johnston, TM J1486.

Allotype: ♀, Wedge River, Gordon Road (ca 42°45'S, 146°12'E) south-west Tasmania, 21. iii. 1972, A.P. A. and H.D. B., TM J789.

Paratypes: ♂, Junction Creek, W. Arthur Plains, 43°07'S, 146°18'E, 8. ii. 1966, Neboiss, NMV K-0915; ♀, same data, NMV K-0916.

**Diagnosis**

Abdomen blackish with small yellowish spots. Male embolic sclerite with broad rounded apex. Female epigynum horse-shoe shaped in anterior half.

**Holotype male**

CL 5.25, CW 5.26. AL 6.10, AW 4.40.

Colour in alcohol: Carapace orange-red with brown suffusion on lateral edges, striae and ocular area; numerous short dark brown setae around fovea. Chelicerae dark red-brown to blackish. Maxillae and labium orange-brown. Sternum yellowish. Legs yellow proximally; orange-red on femora distally and to tarsi. Abdomen dorsally with pale areas largely obscured by dark pigment. Venter dark with pale bordered median area containing dark pigment.

Carapace: Flattish, 6.5 to 7 times longer than high, highest posterior to fovea. Fovea indistinct in shallow depression. Eyes: AME 0.38. AME: ALE: PME: PLE = 1: 0.79: 0.58: 0.68. Interspaces: AME-AME 0.68, AME-ALE 0.97, PME-PME 1.79, PME-PLE 1.63, AME-PME 0.66, ALE-PLE 0.74. MOQ, aw: pw: 1 = 2.58: 3.00: 2.05. Width of clypeus to AME 0.21. Labium: L 0.70, W 1.12. Sternum: L 2.80, W 2.62. Legs: anterior leg ratios I = 4.2, II = 5.2.

Palps: (Figs 24, 25). Palpal tibial apophysis relatively longer than in preceding species. Embolic sclerite with broadly rounded apex. Embolus relatively short, distally with less than a  $\frac{3}{4}$  turn.

*Allotype female* (as holotype except as follows)

CL 6.32, CW 6.29. AL 9.24, AW 6.30.

Colour in alcohol: Abdomen (Fig. 35).

Eyes: AME 0.40. AME: ALE: PME: PLE = 1: 0.80: 0.65: 0.75. Interspaces: AME-AME 0.85, AME-ALE 1.40, PME-PME 2.35, PME-PLE 1.95, AME-PME 0.75, ALE-PLE 1.00. MOQ, aw: pw: 1 = 2.85: 3.65: 2.35. Width of clypeus to AME 0.3. Labium: L 0.86, W 1.38. Sternum: L 3.17, W 3.06. Legs: anterior leg ratios I = 3.7, II = 4.6.

Epigynum: (Fig. 44). Small, somewhat rounded in anterior half.

**Variation**

Carapace length of males 4.41-7.03, mean 5.72 (n=2). Carapace length of females 5.91-7.25, mean 6.52 (n=3). Vulva of paratype NMV K-0916 (Fig. 45) with small compact insemination ducts.

**Distribution and remarks**

Known only from south-western Tasmania (Fig. 7). While the much darker general colour separates this species from the only other known Tasmanian species, *E. spenceri*, specimens of *E. kosciuskoensis* from the southern alpine area of NSW are also of comparable dark colouring but differ from *E. tasmaniensis* in the robust fertilization ducts. *E. tasmaniensis* differs from *E. spenceri* in the broad, rounded embolic sclerite in the male and the relatively small, rounded fossa of the female.

**Other material examined**

**Tasmania:** ♂, penult. ♂, 3 juv., Franklin River area, 42°27'25"S, 145°43'45"E, 14. i. 1983, ANZSES Exped., QM S14146; ♀, juv., same locality, Jan., 1983, ANZSES Exped., QM S14147; penult. ♂, Maatsuyker Island, 43°39'S, 146°16'E, 10. xi. 1970, P. Rawlinson, TM J712; ♀, Picton area (ca 43°10'S, 146°40'E), 27. xi. 1962, C. McCubbin, NMV; juv., same data as allotype, TM J789.

**Etymology**

The name reflects its known distribution as being endemic to Tasmania.

***Eodelena kosciuskoensis* sp. nov.**

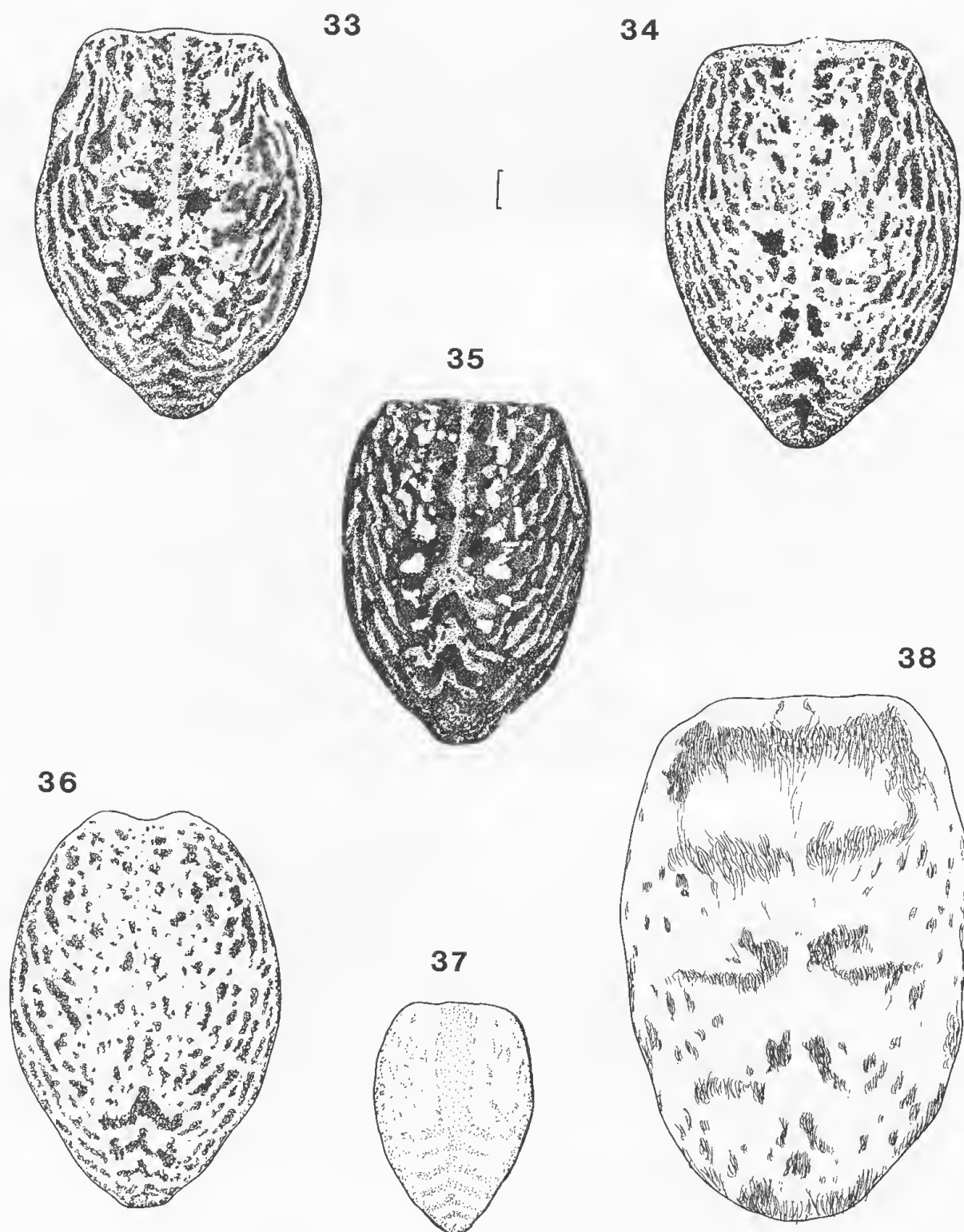
(Figs 7, 48, 49)

**Type**

Holotype: ♀, inside curled shed ribbon bark of eucalypt, on ground, 12 km S Thredbo (36°30'S, 148°19'E), Grid 147 476 on 1:100,000, New South Wales, 31. xii. 1983, H. Parnaby, AM KS19286.

**Diagnosis**

(Male unknown). Carapace flattish. Abdomen



FIGURES 33–38. *Eodelena* abdomens, dorsal pattern. 33, *E. spenceri*, TM J145, female; 34, *E. melanochelis*, SAMA N1989593, female; 35, *E. tasmaniensis*, allotype female; 36, *E. loftiensis*, allotype female; 37, *E. convexa*, holotype male; 38, *E. lapidicola*, allotype female. Scale line 1 mm.



dark coloured. Female with robust fertilization ducts and small sclerotized insemination duct coils.

#### Female

CL 5.18, CW 5.77. (Abdomen damaged) AL *ca* 7.0, AW *ca* 5.0.

Colour in alcohol: Carapace yellow-brown, margins of caput orange-brown, ocular area and clypeus with dark brown suffusion; setae brown. Chelicerae brown-black. Maxillae and labium orange-brown. Sternum yellow with orangish margins; sparse greyish setae. Coxae yellow; grey setae. Leg femora yellowish; patellae to tarsi orange-brown. Abdomen with epidermis partly lifted, yellow-brown with blackish suffusion.

Eyes: AME 0.35. AME: ALE: PME: PLE = 1: 0.71: 0.6: 0.74. Interspaces: AME-AME 0.74, AME-ALE 1.14, PME-PME 2.11, PME-PLE 1.89, AME-PME 0.86, ALE-PLE 0.91. MOQ, aw: pw: 1 = 2.74: 3.31: 2.46. Width of clypeus to AME 0.29. Labium: L 0.79, W 1.25. Sternum: L 3.02, W 2.84. Legs: anterior leg ratios I = 4.5, II = 5.6.

Epigynum: Rounded in anterior half, slightly narrowing towards posterior (Fig. 48). Fertilization ducts robust and heavily sclerotized (Fig. 49).

#### Distribution and remarks

(Fig. 7). Known only from within the Kosciusko National Park, New South Wales, hence the specific epithet. The holotype female is damaged and the abdomen pattern partly destroyed by lifting of the epidermis. Two juveniles from Tumut Reservoir have even darker abdomens. *E. kosciuskoensis* differs from *E. loftiensis* in the smaller, robust fertilization ducts and insemination ducts, the flatter carapace and darker abdomen pattern.

#### Other material examined

**New South Wales:** 2 juv., Tumut Reservoir, 35°58'S, 148°25'E, 22. v. 1988, D. Hirst, SAMA N1989596-7.

***Eodelena loftiensis* sp. nov.**  
(Figs 7, 26, 27, 36, 46, 47)

#### Types

Holotype: ♂, in rolled bark, Loftia Park, 35°02'S, 138°42'E, Mount Lofty Ranges, South Australia, 14. ix. 1989, J. A. Forrest, SAMA N1989579.

Allotype: ♀, same data as holotype, but L. N. Nicolson, SAMA N1989580.

Paratypes: ♀, same data as holotype, but D. Hirst, SAMA N1989582; ♀, under bark of *Eucalyptus*, Loftia Park, South Australia, 25. iii. 1984, R. V. Southcott, SAMA N1989581; ♂, Loftia

Park, in rolled bark with immature female, 27. iii. 1990, D. Hirst, SAMA N1989616.

#### Diagnosis

Carapace low, slightly convex. Abdomen pale with numerous small blackish spots. Male embolic base large, angular retrolaterally; embolic sclerite small, apex bluntly extended and rounded. Female with small insemination ducts coiled one and a half times and enlarged fertilization ducts coiled once.

#### Holotype male

CL 3.34, CW 3.59. AL 4.19, AW 2.68.

Colour in alcohol: Carapace creamy-yellow; brown suffusion on lateral sides; caput with yellow lateral margins, clypeus and ocular area orangish; dark brown in median ocular quadrangle. Chelicerae dark red-brown. Labium orange, maxillae yellow with orange patch prolaterally. Sternum yellowish. Coxae and femora proximally creamy, remainder of legs orange-red but tarsi yellow-brown. Abdomen pale yellow-brown with spots formed by dark setae and pigment, yellowish anterior streak; venter yellow-brown.

Carapace: Low convex, 5 times longer than high, highest posterior to fovea. Fovea indistinct in shallow depression. Setae relatively long. Eyes: AME 0.25. AME: ALE: PME: PLE = 1: 0.8: 0.72: 0.83. Interspaces: AME-AME 0.76, AME-ALE 0.78, PME-PME 1.84, PME-PLE 1.64, AME-PME 0.79, ALE-PLE 0.92. MOQ, aw: pw: 1 = 2.76: 3.28: 2.44. Width of clypeus to AME 0.36. Chelicerae: retromargin with 3 subequal teeth. Labium: L 0.45, W 0.82. Sternum: L 1.82, W 1.92. Legs: anterior leg ratios I = 4.8, II = 7.6.

Palps: (Figs 26, 27). Tibial apophysis long, thin, slightly curved. Embolic base large retrolaterally, embolic sclerite with rounded apex.

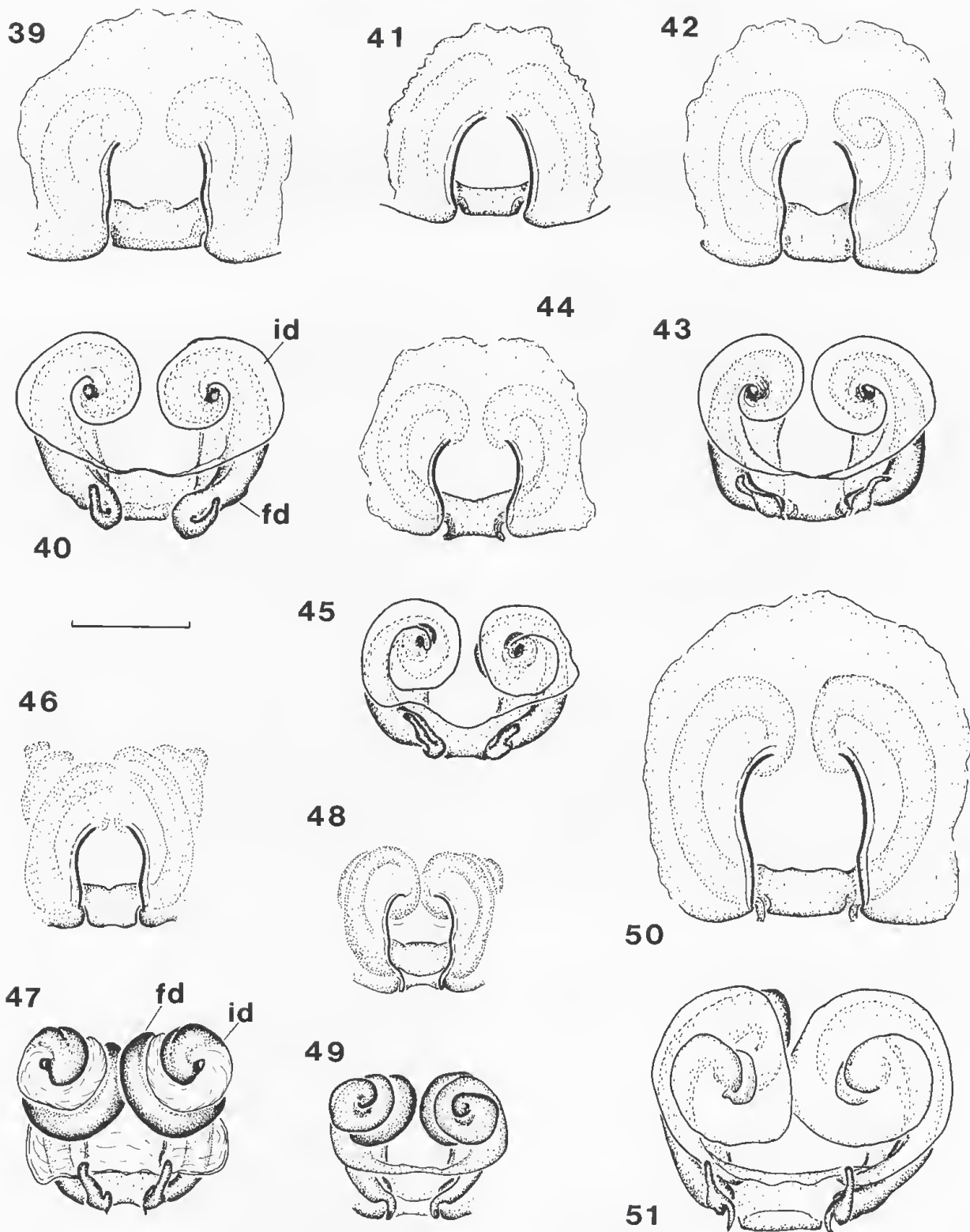
#### Allotype female (as holotype except as follows)

CL 5.02, CW 5.18. AL 10.50, AW 6.92.

Colour in alcohol: Chelicerae blackish, shiny. Maxillae orangish; brown prolateral patch. Sternum creamy-yellow. Metatarsi reddish. Abdomen (Fig. 36).

Eyes: AME 0.36. AME: ALE: PME: PLE = 1: 0.75: 0.67: 0.72. Interspaces: AME-AME 0.72, AME-ALE 1.06, PME-PME 1.94, PME-PLE 2.03, AME-PME 0.69, ALE-PLE 1.06. MOQ, aw: pw: 1 = 2.72: 3.28: 2.28. Width of clypeus to AME 0.17. Chelicerae: left chelicera with 4 teeth, basal minute, others subequal. Labium: L 0.71, W 1.19. Sternum: L 2.61, W 2.52. Legs: anterior leg ratios I = 4.2, II = 5.2. Upright setae more numerous than in the male.

Epigynum: (Figs 46, 47). Relatively shorter and broader than other species, somewhat parallel sided. Vulva with small insemination ducts coiled 1½



FIGURES 39-51. *Eodelena* female epigyna and vulvae, cleared. Figs 39-41, *E. spenceri*: 39, epigynum and vulva of NMV K-0957, ventral; 40, vulva of NMV K-0957, dorsal; 41, epigynum of TM J145. Figs 42-43, *E. melanocheilus*, SAMA N1989592: 42, epigynum and vulva, ventral; 43, vulva, dorsal. Figs 44-45, *E. tasmaniensis*, paratype NMV K-0916: 44, epigynum and vulva, ventral; 45, vulva, dorsal. Figs 46-47, *E. loftiensis*, paratype SAMA N1989581: 46, epigynum and vulva, ventral; 47, vulva, dorsal. Figs 48-49, *E. kosciuskoensis*, holotype: 48, epigynum and vulva, ventral; 49, vulva, dorsal. Figs 50-51, *E. lapidicola*, paratype WAM 88/1979: 50, epigynum and vulva, ventral; 51, vulva, dorsal. Scale line 0.5 mm. id, insemination duct; fd, fertilization duct.

times and enlarged fertilization ducts with one coil, together appearing as being continuously coiled 2½ times.

#### Variation

Carapace length of paratype male 3.56. Carapace length of females 4.40–5.46, mean 4.78 (n=7).

#### Distribution and remarks

*E. loftiensis* is considered to be restricted to the high rainfall areas of the Mount Lofty Ranges in South Australia (Fig. 7). The specific epithet refers to the type locality, Loftia Park. Two females were collected with egg-sacs, one subsequently being destroyed. Eggs are loosely held in place against the substrate by a thin covering of silk from which they are easily dislodged. Differs from other species in the male having the embolic base enlarged retrolaterally, angular in shape, and the female having enlarged fertilization ducts.

#### Other material examined

**South Australia:** 5 ♀♀, Loftia Park, 21. ix. 1989, D. Hirst, N. Nicolson, C. Bonnielle, SAMA N1989583–7; penult. ♂, same data, SAMA N1990714.

#### *Eodelena convexa* sp. nov.

(Figs 7, 14, 28, 29, 30, 37)

#### Types

**Holotype:** ♂, Wanneroo, 31°45'S, 115°48'E, Western Australia, 23. iii. 1979, E. Bruen, WAM 86/681.

**Paratypes:** ♂, Dianella, 34°12'S, 115°04'E, Western Australia, 25. iii. 1976, A. Harding, WAM 88/1644; ♂, Gomm Spring, 34°09'S, 115°24'E, 28 km E by N of Karridale, Western Australia, 24. iv. 1983, E. S. Nielsen, E. D. Edwards, ANIC; ♂, Jandakot, Perth, Western Australia, Mar. 1977, R. P. McMillan, WAM 88/2136.

#### Diagnosis

(Female unknown). Carapace low convex; width subequal to length. Abdomen pale with faint pattern, embolic base rounded, embolic sclerite small.

#### Holotype male

CL 4.50, CW 4.45. AL 6.20, AW 4.10.

Colour in alcohol: Carapace yellow, caput darker, clypeus and ocular area reddish, dark brown pigment around eyes. Chelicerae dark reddish, darker near fang base. Maxillae and labium yellow-brown. Sternum yellow. Legs yellowish proximally; metatarsi and tarsi yellow-orange. Palps yellow-brown. Abdomen (Fig. 37) dorsally yellowish with

faint reddish-brown markings; venter pale yellow. Spinnerets yellow-brown.

Carapace: Low convex, about 4 times longer than high, highest medially. Fovea a long shallow groove. Eyes: AME 0.34. AME: ALE: PME: PLE = 1: 0.76: 0.76: 0.76. Interspaces: AME-AME 0.65, AME-ALE 0.70, PME-PME 1.53, PME-PLE 1.53, AME-PME 1.00, ALE-PLE 0.76. MOQ, aw: pw: 1 = 2.59: 3.06: 2.35. Width of clypeus to AME 0.47. Labium: L 0.59, W 0.94. Sternum: L 2.34, W 2.26. Legs: anterior leg ratios I = 4.8, II = 5.5.

Palps: (Figs 28, 29). Palpal tibial apophysis positioned more dorsally, broader at base with an acutely pointed apex. Embolic base high, rounded. Embolic sclerite small; apex rounded with crenulate appearance (Fig. 30).

#### Variation

Carapace length of paratype males 4.69, 4.85 and 5.45. The apex of the embolic sclerite may have a smooth rounded appearance rather than crenulate, due to a more even distribution of pigment.

#### Distribution and remarks

(Fig. 7). Known only from the male, this species is found in south-west Western Australia. Differs from all other species by the pale abdomen with faint pattern and from the other known Western Australian species, *E. lapidicola*, by the convex carapace, smaller size, and the relative lengths and spination of palp segments. *E. convexa* is most similar to the male of *E. loftiensis* but the latter has the carapace wider than long and a retrolaterally angular embolic base. From the similar carapace shape and somewhat similar embolic base of *E. convexa* and *E. loftiensis* it is plausible to assume the female of *convexa* will also have a robust sclerotized vulva and the two species above, along with *E. kosciuskoensis*, may be originally derived from a single species which enjoyed a continuous southern distribution before becoming separated as a result of climatic changes.

#### Etymology

The specific epithet is in reference to the obviously convex carapace.

#### Material examined

Only the types.

#### *Eodelena lapidicola* sp. nov.

(Figs 7, 15, 16, 17, 31, 32, 38, 50, 51)

#### Types

**Holotype:** ♂, Yallingup, 33°39'S, 115°02'E, Western Australia, 18. ii. 1974, L. E. Koch, WAM 88/1584.



Allotype: ♀, Bremer Bay, 34°26'S, 119°23'E, Western Australia, June 1976, WAM 88/1499.

Paratypes: ♀, Salisbury Island, 34°22'S, 123°33'E, Recherche Archipelago, Western Australia, 17. iv. 1982, Burbidge and Fuller, WAM 88/1979; ♂, same data, WAM 88/1980.

### Diagnosis

Distal spines on an unusually long palpal femur absent. Maxillae narrower in anterior half and sternum widest at mid-length. Male with palpal tarsus subequal in length to tibia. Female epigynum relatively broad and long with posterior 'plateau' short.

### Holotype male

CL 11.67, CW 11.31, AL 13.50, AW 8.55.

Colour in alcohol: Carapace yellowish, caput margins and ocular area reddish; reddish suffusion. Chelicerae blackish; long yellowish setae. Maxillae and labium orange-red. Sternum yellow, margins reddish. Leg coxae and femora yellow; patellae to tarsi yellow-orange. Palps orange-red. Abdomen yellow-brown with blackish suffusion and brown setae forming pattern; venter pale yellow with orangish setae.

Carapace: Flattened, 11 times longer than high, highest in ocular region. Fovea indistinct in large depression. Eyes: AME 0.53, ALE: PME: PLE = 1: 0.87: 0.64: 0.83. Interspaces: AME-AME 1.02, AME-ALE 2.04, PME-PME 2.87, PME-PLE 3.04, AME-PME 0.79, ALE-PLE 1.21. MOQ, aw: pw: 1 = 3.02: 4.15: 2.38. Width of clypeus to AME 0.38. Chelicerae: retromarginal teeth 4, distal well spaced from subdistal tooth. Labium: L 2.08, W 2.28. Sternum: L 6.26, W 4.91. Legs: anterior leg ratios 1 = 3.9, 11 = 4.7.

Palps: (Figs 31, 32). Palpal tarsus subequal in length to tibia (Fig. 16) with 3 prolateral spines. Embolic sclerite short; rounded apex not extending to prolateral side.

### Allotype female (as holotype except as follows)

CL 11.48, CW 11.22, AL 14.00, AW 8.70.

Colour in alcohol: Carapace yellow, caput with reddish ocular area and lateral margins. Chelicerae dark red-brown. Maxillae reddish but with yellowish patch posteriorly. Abdomen (Fig. 38).

Eyes: AME 0.54, ALE: PME: PLE = 1: 0.89: 0.54: 0.78. Interspaces: AME-AME 0.91, AME-ALE 1.93, PME-PME 2.85, PME-PLE 2.91, AME-PME 0.74, ALE-PLE 1.22. MOQ, aw: pw: 1 = 2.89: 4.00: 2.33. Width of clypeus to AME 0.28. Labium: L 1.90, W 2.22. Sternum: L 6.31, W 4.68. Legs: anterior leg ratios 1 = 3.7, 11 = 4.5.

Epigynum: Relatively broad with 'plateau' of fossa short. Vulva of WAM 88/1979 (Figs 50, 51) with 1½ insemination duct coils.

### Variation

Carapace length of males 8.37–11.67, mean = 10.52 (n=3). Carapace length of females 8.82–11.99, mean = 10.07 (n=7).

### Distribution and remarks

Confined to offshore islands and moist coastal areas of south-west Western Australia (Fig. 7). It has been collected in most cases from under rocks. *E. lapidicola* differs from all other species in the shape of the carapace, sternum, maxillae and in the palp spination and short tarsus.

### Etymology

The specific epithet refers to its habit of living under rocks.

### Other material examined

**Western Australia:** ♀, Bald Island, 34°55'S, 118°27'E, 29. x. 1971, A. A. Burbidge, WAM 88/1496; juv., same data, WAM 88/1497; ♂, under loose granite, Barker Bay, Albany district (probably Barker Inlet, 33°48'S, 121°20'E, Esperance district), 28. i. 1965, R. Humphries, WAM 88/1495; ♀ Boxer Island, 34°00'S, 121°41'E, Recherche Archipelago, 1950, V. Serventy, WAM 55/4996; ♀, Cape Leeuwin, 34°22'S, 115°08'E, July 1914, W. B. Alexander, WAM 14/994; penult. ♂, Eclipse Island, 35°11'S, 117°53'E, 27. i. 1938, A. Blythe, WAM 38/141; ♀, Figure of Eight Island, 34°02'S, 121°37'E, Recherche Archipelago, 1950, V. Serventy, WAM 55/4990; juv., Lucky Bay, Cape le Grand, 34°00'S, 122°14'E, 19. v. 1977, R. P. McMillan, WAM 88/1545; juv., same data, WAM 88/1546; penult. ♂, Salisbury Island, 34°22'S, 123°33'E, 17. iv. 1972, N. McKenzie, WAM 88/1978; ♀, Two People Bay, 34°57'S, 118°11'E, 21. iv. 1982, G. T. Smith, WAM 88/1581; juv., same data as holotype, WAM 88/1585. [The Recherche Archipelago material collected by V. Serventy was listed by Main (1954: 47) as *Delena cancerides* and field-notes on habits by V. Serventy were given.]

### Species Transferred

Although the female syntype of *Eodelena nigrifrons* Simon (1908) has not been located, a juvenile syntype in ZMB has been examined and is considered to belong to *Delena*. Further material seen (unpubl. data) from SAMA and WAM shows *Delena nigrifrons* (Simon) to be a valid new combination.



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## REFERENCES

- BONNET, P. 1959. 'Bibliographia Araneorum'. Vol. 2(5), pp. 4231-5058 (T-Z). Toulouse.
- HICKMAN, V. V. 1967. 'Some Common Tasmanian Spiders'. Tasmanian Museum and Art Gallery, Hobart. 112pp.
- HIRST, D. B. 1989a. A new genus of huntsman spider from south-eastern Australia. *Transactions of the Royal Society of South Australia* **113**: 7-13.
- HIRST, D. B. 1989b. A revision of the genus *Pediana* in Australia. *Records of the South Australian Museum* **23**(2): 113-126.
- HIRST, D. B. 1990. A review of the genus *Isopeda* in Australasia with descriptions of two new genera. *Records of the South Australian Museum* **24**(1): 11-26.
- HOGG, H. R. 1902. On the Australasian spiders of the subfamily Sparassinae. *Proceedings of the Zoological Society of London* **2**: 414-466.
- JÄRVI, T. H. 1912. Das Vaginalsystem der Sparassiden. 1. Allgemeiner Teil. *Annales Academiae Scientiarum Fennicae* (A) **4**(1): 1-113.
- KOCH, L. 1875. 'Die Arachniden Australiens, nach der Natur beschrieben und abgebildet', pp. 577-740. Bauer and Raspe: Nürnberg.
- KOCH, L. 1876. 'Die Arachniden Australiens, nach der Natur beschrieben und abgebildet', pp. 741-888. Bauer and Raspe: Nürnberg.
- MAIN, B. Y. 1954. Part 6. Spiders and Opiliones. In Australian Geographical Society reports No. 1. The Archipelago of the Recherche.
- LATREILLE, P. A. 1804. Tableau méthodique des Insectes. *Nouveau Dictionnaire d'Histoire Naturelle* **24**: 129-200.
- SIMON, E. 1903. 'Histoire naturelle des Araignées'. Vol. 2 (4): 669-1080. Paris.
- SIMON, E. 1908. Araneae. Première partie. In W. Michaelson and R. Hartmeyer (Eds). 'Die Fauna Südwest-Australiens'. Vol. 1 (12). Fischer, Jena.
- STRAND, E. 1913. Über einige australische Spinnen des senckenbergischen Museums. *Zoologische Jahrbuche (Systematik)* **35**: 599-624.
- WALCKENAER, C. A. 1837. 'Histoire Naturelle des Insectes'. Aptères, 1. Paris.